Acceptance and Good Field Region Requirement

- MI design acceptance 40π, physical aperture limited by Lambertson

- Radius of present quad IQB = 41.74mm
  Radius of new quad WQB = 55.21 mm
  Increase = 13.47 mm

- Assume presently 40π beam touches the wall of the Lambertson, then
  - Moving the beam away by 10 mm will increase the acceptance to 77π
  - Moving the beam away by 13 mm will increase the acceptance to 90π

- However, the edge of the beam may fall out of the "good field region"
  - 77π: edge at 48.4 mm from the quad center
  - 90π: edge at 53.2 mm from the quad center

  Both assume the Lambertson will move by 10 mm and there is no orbit errors.

- If we set the goal to be 80π and allow 2 mm orbit error, then the "good field region" should be about 51 mm, or 2 inches.